BDCP RDEIR/SDEIS Review Document Comment Form

Document: <u>Administrative Draft – Chapter 11 Fish</u>

Comment Source: US Fish and Wildlife Service

Submittal Date: April 15, 2015

No.	Page	Line #	Comment	ICF Response
Over all Gen eral Com men			Please ensure that the current NEPA Effects Determinations fully support the modified decision. Need to provide specific information that clearly explains and supports the modifications to the NEPA Effects Determinations.	
1	11- 583	17	The selenium section needs to include interpretation for Chinook salmon and steelhead. Although the exposure for these fish are less than sturgeon due to diet, their sensitivity to dietary exposure is much higher. What is the most relevant threshold for salmonids? What are the South Delta and confluence habitat uses and durations for these fish?	
2	11- 583	26	"decreased significantly". Need citation. There are SFEI and BOR publications which would show trend.	
3	11- 583	27	"decline" Very vague. How much? Not a clear description of the intensity or extent of impairment. Could reference current vs. historical. Where are objectives not being met?	
4	11- 583	30	Does not mention how project will interact with selenium, e.g. changes in contribution of SJR flows, providing more reliable irrigation for agriculture in Se enrich soil areas.	
5	11- 583	32	Insert white sturgeon into list	
6	11- 583	35	Current taxonomy is Corbula amurensis. Both genera are used. Should pick one for consistency throughout the document.	
7	11- 584	7	Does not include increases in loading to the clam populations in Suisun via increased SJR water contribution.	
8	11- 584	10	You mention the effects of other species above but then discuss only green sturgeon here. Confusing to the reader which species for which alternatives are being evaluated.	
9	11- 584	12	Although spawning migration is a low exposure time for green sturgeon, we know that green sturgeon use the entire estuary for feeding and have extended vitellogenesis. References for green sturgeon habitat use in the Estuary:	

Heublein et al 2009 Migration of green sturgeon, Acipenser medirostris, in the Sacramento River, Environmental Biology of Fishes 84: 245-258 2) Lindley et al 2011 Electronic tagging of green sturgeon reveals population structure and movement among estuaries. Transactions of the American Fisheries Society 140:108-122 11- 31, 36 It is not the author's fault that this is confusing. The science and regulatory status of Se thresholds are very unclear. But the 4 mg/kg dw threshold is for warmwater fishes and thus why it would be different then thresholds for sturgeon. At no point in this text or the appendix does the modeling or analysis consider or differentiate coldwater fish exposures especially chinook which are very sensitive. My main concern is that the text shows one Level of Concern (LOC) for some fishes and another LOC for sturgeon without explanation. For NEPA purposes the selected thresholds are acceptable. For ESA Section 7 there needs to be a thorough discussion on the most appropriate thresholds for chinook and green sturgeon.	sturgeon, Acipenser medirostris, in the Sacramento River, Environmental Biology of Fishes 84: 245-258 2) Lindley et al 2011 Electronic tagging of green sturgeon reveals population structure and movement among estuaries. Transactions of the American Fisheries Society 140:108-122 It is not the author's fault that this is confusing. The science and regulatory status of Se thresholds are very unclear. But the 4 mg/kg dw threshold is for warmwater fishes and thus why it would be different then thresholds for sturgeon. At no point in this text or the appendix does the modeling or analysis consider or differentiate coldwater fish exposures especially chinook which are very sensitive. My main concern is that the text shows one Level of Concern (LOC) for some fishes and another LOC for sturgeon without explanation. For NEPA purposes the selected thresholds are acceptable. For ESA Section 7 there needs to be a			Heublein et al 2009 Migration of green	
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			accomplishments balance with increased SJR water	
			contribution to the Delta and increase available agricultural irrigation water available to the west-	
			side?	
15	11-	13	It is useful to tell the reader for what exceedance	
	587		quotients are appropriate or refer them to a	
			location in the document (briefly described in	
			Chapter 8, p. 57) where that explanation can be	
			found. (e.g. what do small exceedances signify?)	
			The quotient values are used for screening	
			purposes in risk assessment; they do not quantify	
			risk but provide results that are relative to risk. The	
			quotient method is useful for screening. When the	
			exposure value exceeds the threshold value the	
			resulting quotient value is greater than 1. A value	
			greater than 1 does not indicate that an effect is	
			likely however it does indicate that a refined	
			assessment is necessary to determine the risk. This	
			type of assessment provides no information on the	
			probability of an effect occurring or the size of the	
16	11-	8-11	effect on a particular species. Please ensure that this analysis is supported by the	
10	589	0-11	table above. The data shows as much as a 19%	
	303		increase in tissue concentrations for Alt4 H4 as	
			compared to the NAA and the predicted tissues	
			concentrations for green sturgeon exceed the 5	
			mg/kg LOC selected for the analysis. The author	
			here is not accurately interpreting the risk, but is	
			also limited by the incomplete analysis in the	
			technical appendix (e.g. model uncertainty,	
			selection of level of concern threshold, inclusion of	
			the imperiled status of the fish). That is, minimal	
			increases in tissue Se for fishes who's body	
			burdens are already at or just below effects	
			thresholds may be significant.	
17	11-	12-15	We do not know this. Green sturgeon are more	
1′	589	12 13	sensitive to Se, however, white sturgeon in the	
			Delta are exposed in the Estuary for longer	
			durations throughout their entire life history. What	
			are the seasonal, clam diet contributions and	
			Delta/Confluence/SJR habitat use differences	
			between green and white sturgeon? How does that	
			translate into comparative risk for the two species?	
			Splittail do not feed at a lower trophic level that	
			sturgeon. Their diets are similar but depending on	
			life stage may contain smaller bivalves and more	
			detritus. And the principal problem with Se in the	
			Estuary has nothing to do with bioaccumulation	
			rates of prey. It is all about Corbula (Linville et al	
			2002; Stewart et al 2004). Corbula bioaccumulation	

			T	r
			rates make food web length irrelevant. The question	
			we need to ask is what proportion of splittail's diet	
			is bivalve which is why I requested basic separate	
			bioaccumulation modeling for splittail. We know	
			despite the "reduced loading" to the Delta we are	
			still seeing deformities in splittail. If anything their	
			risk is similar to white sturgeon, not less.	
18	11-	18-19	For which alts? Restoration is not relevant to Alt	
	589		4a. How can we address this issue for California	
			Water Fix?! The only ideas I have are additional	
			TMDLs and a fish tissue monitoring program.	
19	11-	19	Per EPA, this statement ignores the effects of	
15	589	13	increased water supply and reliability for	
	369			
			agricultural irrigation and the potential for	
			increased Se runoff. New Delta-specific criteria are	
			also anticipated from EPA in the near future that	
			should be more stringent than current. Some	
			conditions (grasslands) may improve, some	
			conditions may increase impairment.	
20	11-	28-37	Please ensure that the NEPA Affects	
	589		Determinations for ALT 4a is supported by data,	
			modeling, analysis and interpretation in the	
			document. Per the data presented, modeled fish	
			issue exceeds toxicity thresholds! The upper	
			benchmark of 8 mg/kg is proposed by EPA for	
			general aquatic life beneficial use protection, is not	
			appropriate nor supported by FWS as an	
			appropriate effects threshold for a listed fish	
			species where more sensitive species thresholds	
			have been established. The 5 mg/kg threshold is	
			EXCEEDED for sturgeon all alternatives but in not	
			for the NAA nor EC. How does this translate for	
			salmonids, splittail and white sturgeon??	
			A logical argument can be made that Alts 1-9 are	
			significant and unavoidable for all benthic feeding	
			fishes due to the presence of Corbula without	
			additional new state regulatory actions or	
			monitoring. Why is splittail missing in this	
			conclusion? This section is for all Alts not just 4a,	
			correct? No call is made for Delta smelt either.	
	11	25.27	Dalta ample food unid note is food unit.	
	11-	35-37	Delta smelt feed mid pelagic food web. This	
	598		statement contradicts the next paragraph which	
	1		compares observed body burdens with general	
	1		thresholds.	
	1		"Bennett et al. (2001) found average levels of 0.18	
			μ g/g, which is just under the 0.20 μ g/g general	
	1		threshold for effects on fish (Henery et al.	
	1		2010:561)."	

11-	43	Adult delta smelt do prey on fish larvae (Slater and	
598		Baxter 2014).	
11-	8	No data is available on DS bioaccumulation rates.	
599			
11-	12-17	This is a confounding statement. Yolo is an	
599		established hot spot for mercury methylation with	
		a Superfund site as a direct source of elemental	
		mercury. Alt 4 CM2 calls for increasing flooding	
		frequency and duration. The plethora of organic	
		matter mixed with frequent drying and wetting	
		cycles are cookbook steps for making	
		methylmercury. Thus the need for CM12.	
		For Alt 4a this issue will be limited to NMFS Biop	
		requirements for Yolo and whether or not that is in	
		the baseline.	
11-	33-37	Per EPA's comments, regardless of the Alternative,	
599		more water available for irrigation, less Se laden	
		water exported out of the Delta via SWP/CVP. This	
		may retard progress made by TMDLs without	
		further actions. This is omitted for the document.	
11-	1-6	Excellent description of the problem. This context	
600		is missing from the earlier section on water ops	
		effects.	
11-	4-5	This statement is not accurate. It could be replaced	
601		with a statement that they do not consume	
		Corbula.	